

Claims

What is claimed is:

1. A method and system for spatially presenting and summarizing telephone (installed and mobile) and pager call logs by call origination and/or reception location, where location is defined as a geographic place, including: address, zip code, roaming area, telephone area codes, provider service network, street network segments for calls from a moving mobile phone, etc. The owner of the telephone or pager is visually alerted of sensitive calls by call log map(s) in telephone and pager billing statements. The method and system is comprised of:

Integration of a database technology, a geographic information system, and a rule system;

Summarizing all or a subset of all calls by a map which displays geo-referenced call origination and/or reception location and/or lines connecting the two places;

Summarizing the charged amounts by call origination and/or reception location within the map;

Summarizing the number of calls by call origination and/or reception location within the map;

Summarizing the categorized calls (incoming, outgoing, daytime, nighttime, peak time, off peak time etc.) by call origination and/or reception location within the map;

Summarizing the calls with significant amounts charged by call origination and/or reception location within a map;

Summarizing the local-area calls by call origination and/or reception location within a map;

Summarizing the none-local-area calls by call origination and/or reception location within a map;

Summarizing weekday calls by call origination and/or reception location within a map;

Summarizing weekend calls by call origination and/or reception location within a map;

Summarizing weekly calls by call origination and/or reception location within a map;

Summarizing calls by applicable base rate (day rate, night rate, peak rate, off peak rate, surcharges, etc.) by call origination and/or reception location within a map;

Including the combination of any of above summary maps.

2. The apparatus as claimed in Claim 1, where said summary of calls by call origination and/or reception location within a map includes a map displaying symbols or text denoting the call origination and/or reception location based on geo-referenced information about the originator's and/or the receiver's street address, zip code, city, state, roaming area, telephone codes for each or some calls at that location, where the two locations may be connected via line symbols.

3. The apparatus as claimed in Claim 1, where said summary of charged amounts by call origination and/or reception location within a map includes a map displaying symbols or text at the geo-referenced call origination and/or reception location, where the size, the shape, the color, the pattern, labeling text, or any combination thereof reflects the total or a certain range of charged amounts to and/or from that location.
4. The apparatus as claimed in Claim 1, where said summary of the number of calls by call origination and/or reception location within a map includes a map displaying symbols or text at the call origination and/or reception location, where the size, the shape, the color, the pattern, labeling text, or any combination thereof reflect the actual number or a certain range of numbers of calls to and/or from that location.
5. The apparatus as claimed in Claim 1, where said summary of categorized calls includes a map displaying symbols or text at the call origination and/or reception location, where the size, the shape, the color, the pattern, labeling text, or any combination thereof reflect the categories of incoming, outgoing, daytime, nighttime, peak time, off peak time etc. of calls to and/or from that location.
6. The apparatus as claimed in Claim 1, where said summary of sensitive calls includes calls with significant charge amounts, or the call is one among the top-n charged amounts in this billing period.

7. The apparatus as claimed in Claim 1, where said summary of local and/or non-local calls includes all locations within or outside, respectively, of the owner's home area, as may be defined by address plus distance function, or any geographic place, including zip code, phone area codes, roaming area codes, service provider network, street network, city or town, county, state, country, continent, etc.
8. The apparatus as claimed in Claim 1, where said summary of weekday calls by call origination and/or reception location within a map includes a map displaying symbols or text at the call origination and/or reception location, where the size, the shape, the color, the pattern, labeling text, or any combination thereof reflects calls conducted on weekdays.
9. The apparatus as claimed in Claim 1, where said summary of weekend calls by call origination and/or reception location within a map includes a map displaying symbols or text at the call origination and/or reception location, where the size, the shape, the color, the pattern, labeling text, or any combination thereof reflects calls conducted on weekends.
10. The apparatus as claimed in Claim 1, where said summary of weekly calls by call origination and/or reception location within a map includes a map displaying symbols or text at the call origination and/or reception location, where the size, the shape, the color, the pattern, labeling text, or any combination thereof

reflects calls conducted during the first week, second week, third week and fourth week of the billing period.